

REMARKS

Applicant has studied the Final Office Action dated July 8, 2004, and has made amendments to the claims. Claims 13, 19 and 20 have been amended. No new matter has been added. Claims 13-16 and 18-20 are pending. Claim 13 is an independent claim. It is submitted that the application is in condition for allowance. Applicant respectfully requests entry of this Amendment pursuant to 37 C.F.R. § 1.116 in that the amendment and remarks below place the application and claims in condition for allowance or at least, present the application in better form to appeal.

Claim for Foreign Priority Under 35 U.S.C. § 119

With this paper, Applicant has amended the specification at page 1 to claim priority under 35 U.S.C. § 119(a) to Korean Application No. 2000-30321, filed on June 2, 2000.

§ 112 Rejections

The Examiner rejected claims 19 and 20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, the Examiner asserted that the term “the opening” in claims 19 and 20 and the term “the second supporting frame” in claim 20 lack antecedent basis.

Claim 19 has been amended to recite that the supporting frame has “at least one opening” and claim 20 has been amended to depend from claim 19 and recite “the at least one opening of the supporting frame.” It is respectfully submitted that sufficient antecedent basis for the limitations recited in claim 19 exists in claim 13, from which claim 19 depends, and that claim 19 provides sufficient antecedent basis for the limitations recited in claim 20, from which claim 20 now depends. It is respectfully asserted that the grounds for objection have been overcome and it is respectfully requested that the Examiner withdraw the objection.

The Examiner further rejected claims 19 and 20 under 35 U.S.C. § 112, fourth paragraph, as failing to limit the claims from which they depend. Specifically, the Examiner asserted that term “the opening” in claims 19 and 20 fails to limit the subject matter of claim 13, from which the claims depend and, therefore, were not evaluated on the merits. As noted previously, claims 19 and 20 have been amended. It is respectfully submitted that claim 19 further limits the claim from which it depends by providing additional limitations regarding the “supporting frame” recited in claim 13 and that claim 20 further limits the claim from which it

depends by providing further limitations regarding the “at least one opening” recited in claim 19. It is respectfully asserted that the grounds for objection have been overcome and it is respectfully requested that the Examiner withdraw the objection and consider the merits of claims 19 and 20 in view of the comments contained herein.

§ 103 Rejections

Claims 7-9, 12-15 and 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kasono (US 6,226,238) in view of Mitsumori et al. (US 5,005,162). This rejection and the combination of the Kasono and Mitsumori references is respectfully traversed.

With respect to the rejection of claims 7-9 and 12, it is respectfully noted that these claims have been canceled. Therefore, it is respectfully asserted that the rejection is moot with regard to these claims.

With respect to the rejection of claims 13-15 and 18, it is respectfully noted that independent claim 13 has been amended to recite that “movement of the micro mirror, focusing lens and SIL may be controlled by a single driver.” Support for the amendment may be found in the specification as originally filed in FIG. 6 which illustrates the optical pickup head having micro mirror 10, focusing lens 31 and SIL 32 integrated into a single support structure and in the preamble of claim 13 which recites an optical pickup head which makes a “fine movement by a driver.”

Kasono Fails to Disclose All the Elements of Independent Claim 13

It is respectfully noted that Kasono discloses “first drive means for driving the objective lens” and “second drive means for driving the solid immersion lens.” Kasono at col. 2, ll. 17-21 and 36-39. Therefore, it is respectfully submitted that Kasono discloses a focusing lens (“objective lens”) and SIL (“solid immersion lens”) that are controlled by separate drivers rather than a single driver, as recited in independent claim 13.

It is respectfully submitted that controlling the focusing lens and SIL with a single driver, as recited in independent claim 13, is significant in achieving the stated goals of the present invention, such as an optical pickup head “of which weight is minimized for enhancing tracking accuracy and speed” as well as an optical pickup head “which can change an optical path precisely” and “which can reduce an alignment error of a mirror angle.” Specification at paragraphs 06-08.

On the other hand, it is respectfully submitted that because the Kasono device does not enable controlling the focusing lens and SIL with a single driver, a “means for determining a

center position of the solid immersion lens” as well as “means for calculating a spot position of the recording light ... according to the center positions of the objective lens and the solid immersion lens” and “means for controlling the first and second drive means” must also be provided. Kasono at col. 2, ll. 22-30 and 40-49. It is further respectfully submitted that the additional means disclosed by Kasono would not be required by the optical pickup head of the present invention, thereby minimizing weight, enhancing tracking accuracy and speed, and enabling to precisely change the optical path and reducing an alignment error of a mirror angle.

Mitsumori et al. Fails to Cure the Deficiencies of Kasono

As previously submitted, Kasono fails to disclose a focusing lens and SIL that may be controlled by a single driver, as recited in independent claim 13. As the Examiner notes, in paragraph 6 of the Office action, “Kasono does not disclose a micro mirror,” as recited in independent claim 13. It is respectfully submitted that, even if the combination of the Kasono and Mitsumori et al. references is valid, Mitsumori et al. fails to suggest modifying the Kasono invention to integrate a micro mirror, focusing lens and SIL into a support frame such that the movement of the micro mirror, focusing lens and SIL may be controlled by a single driver.

It is respectfully noted that nowhere in Mitsumori et al. is a “micro” mirror disclosed nor is an SIL disclosed. It is further respectfully noted that Mitsumori et al. teaches to reduce the overall thickness of the device by changing the direction of the light beam twice with first and second reflectors or mirrors which allows the light beam generating and detecting unit to have its longitudinal direction perpendicular to the optical axis of the objective lens, thereby making the space between the second light reflector and the objective lens relatively small. See Mitsumori et al. at col. 4, ll. 1-27 and col. 11, ll. 30-48. Moreover, it is further respectfully noted that Mitsumori et al. teaches to use two reflectors or mirrors in order to enable easy adjustment of the optical path of the light beam. See Mitsumori et al. at col. 4, ll. 28-32 and col. 11, ll. 49-54.

Given Mitsumori et al. does not teach using mirrors that are small in size, or “micro,” but rather teaches using multiple mirrors in order to change the direction of the light beam, it is respectfully submitted that the teachings of Mitsumori et al. would not make it obvious to one of ordinary skill in the art to modify the Kasono invention with a micro mirror. Furthermore, given that Mitsumori et al. does not even disclose an SIL, it is respectfully submitted that there is no motivation in Mitsumori et al. for one of ordinary skill in the art to modify the Kasono invention to integrate a mirror (micro or not), focusing lens and SIL into a support frame such that the movement of the micro mirror, focusing lens and SIL may be controlled by a single driver.

Combination of Kasono and Mitsumori et al. is Not Valid

The Federal Circuit has provided that an Examiner must establish a case of prima facie obviousness. Otherwise the rejection is incorrect and must be overturned. As the court recently stated in In re Rijkaert, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993):

“In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. ‘A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art.’ If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned.” (citations omitted.)

It is well settled that a reference must provide some motivation or reason for one skilled in the art (working without the benefit of the applicants’ specification) to make the necessary changes in the disclosed device. The mere fact that a reference may be modified in the direction of the claimed invention does not make the modification obvious unless the reference expressly or impliedly teaches or suggests the desirability of the modification. In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984); Ex parte Clapp, 227 USPQ 972, 973 (Bd. App. 1985); Ex parte Chicago Rawhide Mfg. Co., 223 USPQ 351, 353 (Bd. App. 1984).

It is respectfully noted that Kasono is directed to an optical disc **recording device** or recorder which enables to control a position of a light spot even if both an objective lens and SIL are attached to the optical head.” See Kasno at col. 1, ll. 1-3 and col. 2, ll. 6-11 (emphasis added). It is further respectfully noted that Mitsumori et al. is directed to an optical disc **reproducing device** or player which enables to maintain correct focus and tracking relations of a light beam to a recorded track on a disc and which miniaturizes an optical path arrangement to allow easy adjustment of the optical path of a light beam. See Mitsumori et al. at col. 1, ll. 6-15 and col. 3, ll. 10-15 and 22-34 (emphasis added).

It is respectfully submitted that Kasono and Mitsumori et al. are directed to distinctly different devices. Therefore, it is further respectfully submitted that the ordinary person skilled in the art at the time the present invention was made would not have been motivated to modify the Kasono **recording device** directed to a problem specifically related to an objective lens and SIL in an optical head by the teachings of Mitsumori et al. directed to solving a problem related to the optical path of a light beam in a **reproducing device**.

The Examiner bears the burden of establishing the existence of either 1) some objective teaching in the prior art or 2) knowledge generally available to one of ordinary skill in the art which would lead that individual to change the primary reference. In re Jones, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992). Section 103 does not allow the Examiner to engage in a picking and choosing from the prior art only to the extent that it will support a holding of obviousness, while excluding parts of the prior art essential to the full appreciation of what the prior art suggests to one of ordinary skill in the art. In re Wesslau, 147 USPQ 391 (CCPA 1975). As the CAFC has said, obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. ACS Hospital Systems v. Montefiore Hospital, 221 USPQ 929, 933 (Fed. Cir. 1984).

In the Office action at paragraph 6, the Examiner refers to col. 7, line 62 to col. 8, line 2 of Mitsumori et al. as providing the motivation to add a micro mirror to the Kasono device “in order to make the optical axis of the focusing lens substantially perpendicular to the pickup head.” However, as was previously respectfully noted, the Kasono device is directed to enabling to control a position of a light spot even if both an objective lens and SIL are attached to the optical head. Therefore, it is respectfully submitted that, although the Kasono device may be altered as the Examiner suggests, a person skilled in the art at the time the present invention was made would not have been motivated to modify the Kasono device “in order to make the optical axis of the focusing lens substantially perpendicular to the pickup head” since the alteration would do nothing to further the intended purpose of the Kasono device.

In the Office action at paragraph 6, the Examiner further refers to col. 11, ll. 36-49 of Mitsumori et al. as providing the motivation to mount the micro mirror in a common supporting frame with the focusing lens and the SIL “to reduce the size and thickness of the optical head.” However, as previously respectfully noted, the Kasono device is not directed to reducing the size of the optical head and Mitsumori et al. does not disclose an SIL. Therefore, it is respectfully submitted that the Examiner’s proposed alteration would do nothing to further the intended purpose of the Kasono device and, therefore, not be an obvious modification to a person skilled in the art at the time the present invention was made. Moreover, it is respectfully submitted that Mitsumori et al. cannot be seen as providing motivation to mount a device (the SIL) that is not even disclosed therein.

The Federal circuit has consistently held that hindsight reconstruction does not constitute a prima facie case of obviousness under 35 U.S.C. § 103. In re Geiger, 2 USPQ2d 1276 (Fed Cir. 1987). It is respectfully submitted that the Examiner has failed to establish a

prima facie case of obviousness. It is further respectfully submitted that it is “impermissible hindsight” to find the motivation to combine the Kasono and Mitsumori et al. references based on the combination recording/reproducing device to which the present invention is directed.

It is respectfully noted that the Kasono device, like the device of the present invention, discloses an SIL being under the focusing lens, as recited in independent claim 13 of the present invention. See Kasono FIGS. 2, 4 and 5. It is further respectfully noted that Mitsumori et al. discloses the reflector or mirror being under the focusing lens as opposed to a focusing lens under the micro mirror, as recited in independent claim 13 of the present invention. See Mitsumori et al. FIGS. 4-6. It is respectfully submitted that a person skilled in the art at the time the present invention was made would not have been motivated to modify the Kasono device having an SIL under the focusing lens by adding the mirror of the Mitsumori et al. device which is disclosed as being **under** the focusing lens to produce the device of claim 13 of the present invention which recites a focusing lens under the micro mirror and an SIL under the focusing lens.

The Examiner asserts in the Office action at paragraph 6 that Kasono discloses “an air-bearing surface ... formed under the supporting frame for making the supporting frame buoyant.” It is respectfully submitted that modifying the Kasono device, as proposed by the Examiner, to add the mirror disclosed by Mitsumori et al. to the optical pickup head would add weight and, thereby, make it more difficult to provide the “air-bearing surface ... formed under the supporting frame for making the supporting frame buoyant”

It is not proper under 35 U.S.C. 103 to modify a prior art patent in a manner which would destroy that on which the invention of the prior art patent was based. Ex parte Hartman, 186 USPQ 366, 367 (PTO Bd. App. 1974). It is respectfully submitted that an ordinary person skilled in the art at the time the present invention was made would not have been motivated to make the proposed modification to the Kasono device since the modification would add weight to the optical pickup head.

It is respectfully submitted that the Kasono and Mitsumori et al. references fail to meet the basic requirement for a finding of obviousness established by the courts in Gordon, Clapp, and Chicago Rawhide. There is no suggestion in the cited references of modifying the devices disclosed therein in the direction of the present invention.

Furthermore, it is further respectfully submitted that Kasono “teaches away” from the combination of the Kasono and Mitsumori et al. references. Kasono discloses an SIL under the focusing lens and an air-bearing surface under the supporting frame for making the supporting frame buoyant. On the other hand, Mitsumori discloses a mirror under the focusing lens and

adding the Mitsumori et al. mirror to the Kasono device would add weight to the optical head and make the air-bearing surface of Kasono more difficult to achieve.

In view of the previous remarks, it is respectfully asserted that independent claim 13 is allowable over the cited references because Kasono and Mitsumori et al. fail to disclose a supporting frame for integrating the micro mirror, the focusing lens and the SIL such that movement of the micro mirror, focusing lens and SIL may be controlled by a single driver. It is further respectfully asserted that claims 14, 15 and 18, which depend from claim 13, also are allowable over the cited references. Moreover, it is respectfully asserted that claims 19 and 20, which depend from claim 13 and which were not evaluated on the merits, also are allowable over the cited references.

Claims 10 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kasono and Mitsumori et al. as applied to claims 9 and 15, and further in view of Ohashi et al. (US 6,487,224). This rejection is respectfully traversed.

With respect to the rejection of claim 10, it is respectfully noted that this claim has been canceled. Therefore, it is respectfully asserted that the rejection is moot with regard to this claim.

With regard to the rejection of claim 16, and as previously asserted, independent claim 13 is allowable over Kasono and Mitsumori et al. It is respectfully submitted that Ohashi et al. does not cure the defects identified with respect to Kasono and Mitsumori et al. Therefore, it is respectfully asserted that independent claim 13 is allowable over the combination of the cited references. It is further respectfully asserted that claim 16, which depends from claim 13, also is allowable over the cited references.

CONCLUSION

In light of the above remarks, Applicant submits that claims 13-16 and 18-20 of the present application are in condition for allowance. Reexamination and reconsideration of the application are requested.

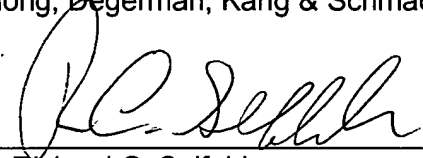
If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 623-2221 to discuss the steps necessary for placing the application in condition for allowance.

Respectfully submitted,

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